

In the Claims

Amend the Claims as follows:

1. Canceled.

2. (Currently amended) ~~The camera of Claim 1, wherein:~~  
A multi-tap camera, comprising:

a multi-tap imager with a plurality of output  
taps;

a plurality of separate digitizing channels for  
each imager output tap;

an adjustment for channel gain and black level;  
and

a channel balancer for comparing adjacent pixels  
represented in each digitizing channel and for summing  
differences in levels over many frames, and where an  
accumulated difference is used as a feedback signal to drive  
such summing to a minimum;

wherein, the adjustment is such that said black  
level is set by temporarily blacking out the imager, and  
said feedback signal is used to find a balance of black  
levels between the channels.

3. (Currently amended) A multi-tap camera system,  
comprising:

a multi-tap imager with a plurality of output taps;

a plurality of separate digitizing channels for each imager output tap;

a framegrabber connected to receive separate video data from each of said digitizing channels and able to pixel shift each digitizing channel relative to the others; and

a pattern generator for use once during a calibration to generate a test pattern in the digitizing channels that demonstrates to a framegrabber how exactly to restitch the various lanes or zones of a whole image frame back together by pixel shifting columns.

4-5. Canceled.

6. (Currently amended) ~~The method of claim 4, wherein~~  
A method for improving the operation of a multi-tap imager in a camera, the method comprising the steps of:

collecting pixel information from a plurality of taps in a multi-tap imager connected to respective channels that include samplers, amplifiers, and digitizers;

comparing the difference between pixel values in adjacent pixels from respective said taps;

adjusting a channel associated with one of said taps to minimize a sum of any such differences between pixel values in adjacent pixels from respective said taps;

wherein, the adjusting is such that the DC-level of one channel is changed relative to the gain of another channel by optically forcing said imager to output its black levels.

7. (Currently amended) A method for calibrating a multi-tap imager in a camera for use with a framegrabber, the method comprising the steps of:

combining a multi-tap camera and a matching framegrabber together for the first time;

generating a test pattern by injecting its constituent frame parts into a plurality of taps in a multi-tap imager connected to respective channels that include samplers, amplifiers, and digitizers; and

setting a restitching by a framegrabber of the test pattern to eliminate bit shifts in lines and rows

wherein, setting said restitching once for the particular combination of said multi-tap camera and a matching framegrabber is a permanent calibration.